practices necessarily shifts onto patients, physicians will need to use appropriate communication skills to help empower patients to change their behaviors.

Finally, the task force's review pointed out the inadequacy of existing data. Either studies were completely lacking in some areas, or existing studies were nonconclusive due to improper study design. This points out a vital area of research in which family practice could make a significant difference. The task force guide can be obtained by calling 1-800-638-0672 and asking for publication No. 97913-0.

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Pap Smear Update—The Bethesda (Nomenclature) System

THE PAPANICOLAOU smear deserves credit for the significant decline in the incidence of invasive cervical cancer in screened populations. Despite the wide adoption of this screening tool in the United States since its introduction in the 1940s, however, 7,000 women per year continue to die of this theoretically preventable disease. Related Pap smear issues currently being studied and reported in the literature include risk factors for cervical carcinoma (including human papillomavirus); the cost-effective frequency of screening (the US recommendation for every one to three years is related to risk factors and personal Pap smear history); improving the access to screening for low-income, high-risk populations; specimen collection techniques, such as cytobrush for nonpregnant endocervical cell sampling; laboratory quality assurance, including uniform and clinically relevant interpretation and reporting of results; and the appropriate clinical management of inadequate and abnormal specimens.

In December 1988, the National Cancer Institute convened 51 experts from the disciplines of pathology, cytology, and obstetrics and gynecology in Bethesda, Maryland, to address the last two issues. The participants unanimously agreed to view the Pap smear report as a medical consultation (improved by adequate clinical data) and to adopt the Bethesda System as the preferred nomenclature for cervical and vaginal cytopathology reporting.

The Bethesda System introduces two new, inclusive, descriptive terms: *low-grade* and *high-grade squamous intraepithelial lesion.* Previous nomenclatures, felt to be nonspecific and not reproducible, have been absorbed into the two larger categories. Low-grade squamous epithelial lesion is the new designation for the former mild dysplasia, cervical intraepithelial neoplasm, or CIN 1, and cellular changes associated with human papillomavirus. High-grade squamous epithelial lesion encompasses *moderate dysplasia* to *carcinoma in situ,* or CIN 2 to CIN 3. *Atypia* is now used to describe only changes of undetermined significance—that is, not inflammation.

The new report format would include the following:

- A statement of specimen adequacy—satisfactory, less than optimal, or unsatisfactory;
- A general categorization of diagnosis—within normal limits or other—to facilitate clinical triage; and
- A descriptive diagnosis—infection and type, reactive or reparative changes, epithelial cell abnormalities, nonepithelial malignancy, hormonal evaluation, or other.

When results are not within normal limits, or when specimens are unsatisfactory, the report should include clinical recommendations for follow-up by the reporting cytologist.

The Bethesda System attempts to clarify the Pap smear screening diagnosis and to exploit the consultant role of the cytologist. The objective is to facilitate the appropriate clinical investigation and early intervention for which Pap smear screening is intended.

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Nonpharmacologic Management of Hypertension

MUCH OF THE IMPETUS for promoting nondrug approaches to control blood pressure stems from the risks associated with medication use, especially among mildly hypertensive patients. This also presents an opportunity to modify associated risk factors in susceptible persons. The 1988 Report of the Joint National Committee on the Detection, Evaluation and Treatment of High Blood Pressure recommended that nonpharmacologic approaches be used both as definitive intervention and as an adjunct to drug therapy.

The recommendation to reduce sodium intake has become a practice standard for blood pressure control. The average American diet contains about 10 to 20 grams of salt per day (170 to 350 mEq of sodium). Moderate sodium restriction has been shown to reduce systolic blood pressure by an average of about 10 mm of mercury and the diastolic pressure by about 5 mm of mercury. It is important to note that the effect of this restriction is not universal. Some patients—for example, African Americans and the elderly—are more salt-sensitive than others.

The incidence of hypertension among obese persons is 50% greater than among those with normal body weight. In past studies, weight loss has resulted in a substantial lowering of blood pressure.

Controversy exists regarding the role of low levels of potassium, magnesium, and calcium in the development and maintenance of hypertension. Nevertheless, it would be prudent to maintain adequate levels of these important cations.

Vegetarians and persons with a diet high in polyunsaturated fats have been shown to have lower blood pressures than those with a diet high in saturated fats and low in polyunsaturated fats. Recently it was shown that ingesting 50 ml of fish

oils per day for two months resulted in an average decline of 6.5 mm of mercury systolic and 4.5 mm of mercury diastolic blood pressure in hypertensive persons. These studies provide further impetus for recommending a heart-healthy diet.

Because ingesting more than 1 oz of alcohol per day may be responsible for a large percentage of hypertensive patients seen in family practice, limiting alcohol intake is an important recommendation.

The direct benefits of exercise on blood pressure control are difficult to isolate from those of the changes that often accompany exercise, such as improved diet, weight loss, and decreased cigarette smoking. Considerable evidence suggests, however, that regular aerobic exercise by itself does effectively reduce blood pressure. Declines in mean diastolic blood pressure from 117 to 97 mm of mercury have been documented after just three months of daily walking or running 3 km (2 mi).

Life-style changes should be encouraged to forestall, minimize, or obviate the need for medication. One study showed that by reducing weight, salt, and alcohol intake, 39% of patients with less severe hypertension previously controlled with medication remained normotensive for four years without requiring any medication.

Using a nonpharmacologic approach to hypertension is an important adjunct for controlling blood pressure. Benefits may include not only reducing the need for medication, but also improving the subjective perception of well-being and increasing quality of life. It is important, however, to monitor the progress of patients placed on a nondrug regimen. If the diastolic blood pressure remains above 90 mm of mercury after employing nonpharmacologic measures for at least six months, then drug therapy should also be considered.

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A New Treatment of Nocturnal Enuresis

ALTHOUGH 2 to 3 million children nationwide suffer some degree of distress because of nocturnal enuresis (bed wetting), there continues to be controversy as to its origin and treatment. Enuresis is defined as a lack of bladder control in a child who has reached an age when urinary control is usually expected. Although most children have achieved control by 4 years of age, some 10% of 6-year-old children and 2% of 14-year-olds have nocturnal enuresis. There is evidence that heredity plays a role, but separating genetic characteristics from family expectations is difficult. The differential diagnosis includes infection, neurogenic urinary bladder, diabetes mellitus, urinary tract anomalies, and emotional problems. Enuresis is primary if bladder control has never been completely present and secondary if urinary incontinence has not occurred for a prolonged period (six months or more). While secondary enuresis is likely to be associated with an underlying illness, infection, or psychosocial stress, the overwhelming majority of cases of primary enuresis are not associated with any of the forementioned causes.

Although studies show that the functional bladder capacity of enuretic children is smaller than that of nonenuretic children, their daytime bladder function is basically normal. Thus, the role of functional capacity is unclear. Conventional therapies for children affected with nocturnal enuresis include setting alarm clocks to awaken the child to go to the bathroom, a regimen of imipramine hydrochloride, and moisture alarms. Unfortunately, some children are only partially helped, and results are less than satisfying to physicians, patients, and parents alike.

Recent studies in Denmark indicate that enuresis may be directly related to an insufficient secretion of antidiuretic hormone (ADH) at night, resulting in a nighttime overproduction of urine. Normal children were found to regulate urine production by increasing ADH levels at night. Enuretic children, however, did not have an increase in ADH levels and produced an abnormally large volume of urine that resulted in bed wetting. Enuretic children were also found to urinate with a full bladder, and, in some cases, were found to repeatedly fill their bladder throughout the night. Having identified these striking physiologic changes in enuretic children, researchers successfully used desmopressin acetate nasal spray (DDAVP), a synthetic ADH, to decrease urine output and stop the enuresis. These early studies led to subsequent well-controlled, double-blind clinical trials that have confirmed that DDAVP is effective in controlling nighttime urine production.

Desmopressin acetate is currently available in a nasal spray pump and has been approved by the US Food and Drug Administration for the treatment of primary nocturnal enuresis. The nasal spray is applied directly to the nasal mucosa, and the dosage should be adjusted according to the individual response. The recommended initial dose for children who are 6 years of age and older is 20 μg (0.2 ml solution) at bedtime, though some patients may respond to less medication. Adjustments up to 40 μg are suggested if there is no response. The manufacturer recommends that half of the dose be administered in each nostril. Side effects are usually mild and are limited to mucosal irritation, with occasional dose-related gastrointestinal upset. Serum electrolyte levels should be checked if therapy is continued beyond seven days.

Although patients have been kept on the medication therapy for extended periods of time, no adequately controlled studies with intranasal DDAVP in primary nocturnal enuresis have been conducted beyond four to eight weeks. The high cost of the medication (more than $60 per month) is a limiting factor to a widespread application of this treatment approach. At the same time, the fact that many people are willing to pay this much for the medication underscores the level of emotional distress that some patients and families experience as a result of nocturnal enuresis.

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